

What is claimed is:

1. A tire wheel assembly which includes a pneumatic tire, and a wheel provided with a rim fitted with the pneumatic tire, and forms a cavity portion between the pneumatic tire and the rim, wherein:

at least one tube, which has one end thereof closed while having a length of 55% to 110% of a reference length L_0 corresponding to one fourth of a cavity resonance wavelength, is provided so as to open to the cavity portion.

2. A tire wheel assembly, which includes a pneumatic tire, and a wheel provided with a rim fitted with the pneumatic tire, and forms a cavity portion between the pneumatic tire and the rim, wherein:

a plurality of tubes, each of which has one end thereof closed while having a length of 55% to 110% of a reference length L_0 corresponding to one fourth of a cavity resonance wavelength, are provided so as to open to the cavity portion; and

opening portions of these tubes are arranged in one arbitrary location on a circumference, or in two locations facing each other across a rotational axis of the tire.

3. The tire wheel assembly according to claim 2, wherein an angle with respect to the rotational axis of the tire, which defines a range of each of the locations where the opening portions of the tubes are arranged, is equal to or less than 35 degrees.

4. The tire wheel assembly according to any one of claims 1 to 3, wherein the length of the tube is set at 85% to 105% of the reference length L_0 .

5. The tire wheel assembly according to any one of claims 1 to 4, wherein a cross-sectional area of the tube is set at 0.2% to 10% of a cross-sectional area of the cavity portion.

6. The tire wheel assembly according to any one of claims 1 to 5, wherein an inside of the tube is filled with any one of a porous material and a non-woven fabric which have air permeability.

7. The tire wheel assembly according to any one of claims 1 to 6, wherein the tube is provided with the pneumatic tire.

8. The tire wheel assembly according to any one of claims 1 to 6, wherein the tube is provided with the wheel.